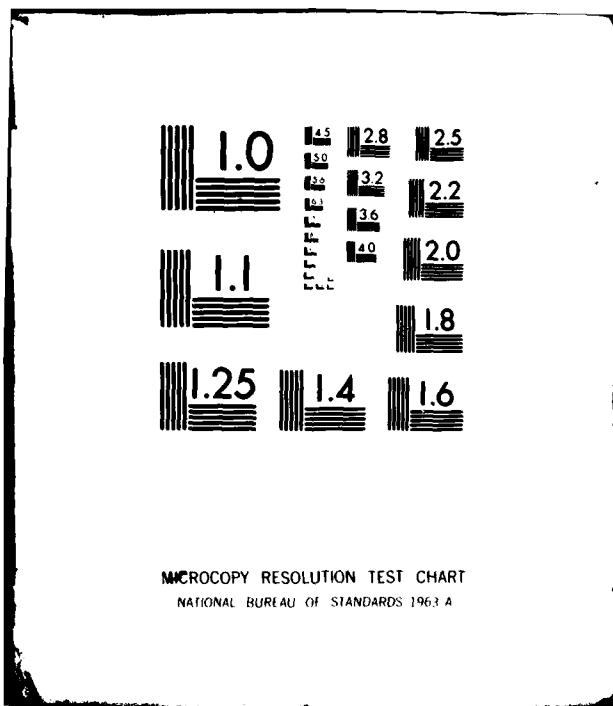


AD-A082 559 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2  
19304D GSRS; MISSILE NUMBER 1097, ROUND NUMBER V-89, 19 NOVEMBER--ETC(U)  
NOV 79

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ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

White Sands Meteorological Team

ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) <b>Meteorological data gathered for the launching of the 19304D GSRS, Missile Number 1097, Round Number V-89 are presented in tabular form.</b>		

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<u>Accession Per</u>	
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Justification _____	
<u>By</u> _____	
<u>Distribution/</u>	
<u>Availability Codes</u>	
Dist	Avail and/or special
A	<i>23</i> <i>SP</i>

## INTRODUCTION

19304D GSRS, Missile Number 1097, Round Number V-89, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1415 MST on 19 Nov 79. The scheduled launch time was 1400.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team. Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), Wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

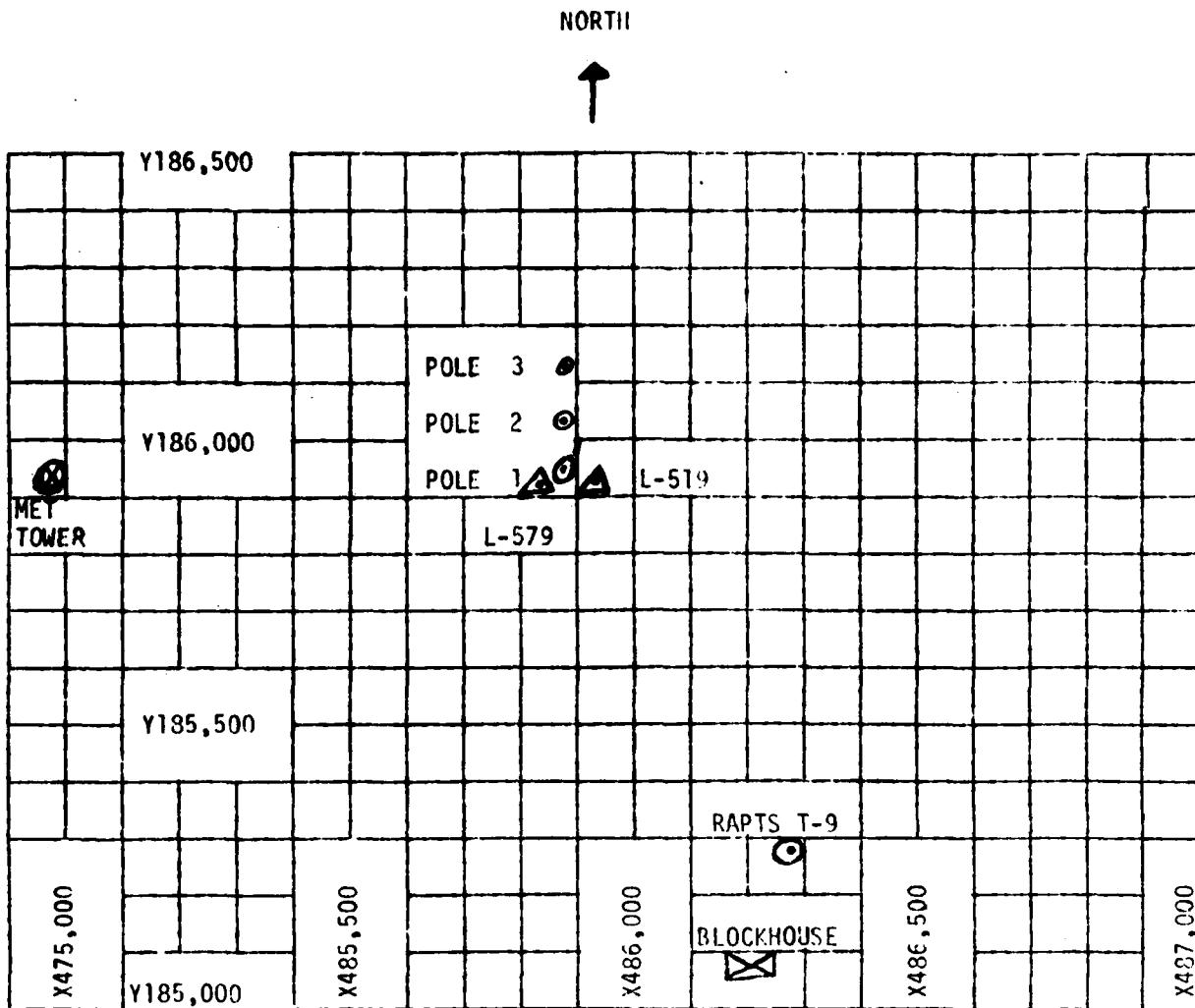
### SITE AND ALTITUDE

LC-33	2km
Nick	2km

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 78,000 feet in 500-feet increments.

### SITE AND TIME

SMR	1400 MST
-----	----------



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
  - (a) Pole #1 - 38.7 ft.
  - (b) Pole #2 - 53.0 ft.
  - (c) Pole #3 - 83.6 ft.
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.

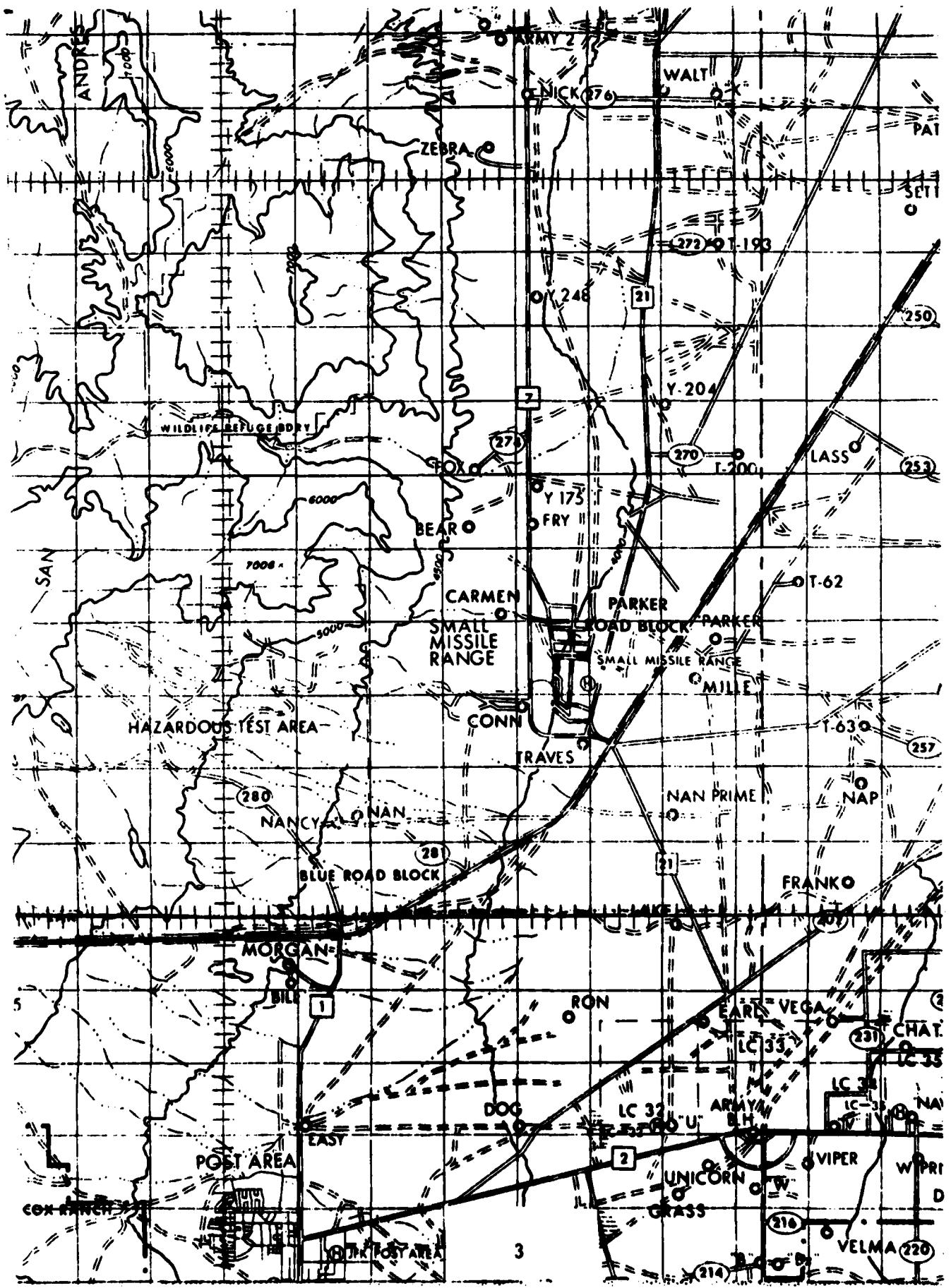


TABLE 1. Surface Observations taken at 1415 MST,  
19 November 1979, at LC-33, 19304D GSRS,  
Missile Number 1097, Round Number V-89.

ELEVATION	3977.30	FT/MSL
PRESSURE	875.4	MBS
TEMPERATURE	21.0	°C
RELATIVE HUMIDITY	31	%
DEW POINT	3.3	°C
DENSITY	1037	GM/M <sup>3</sup>
WIND SPEED	16	KTS
WIND DIRECTION	193	DEGREES
CLOUD COVER	5	Cu
CLOUD COVER	2	C1

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	188	11	-30	191	09	-30	180	13
-20	193	13	-20	193	11	-20	192	11
-10	196	15	-10	206	13	-10	191	13
0.0	193	17	0.0	209	14	0.0	189	16
+10	203	13	+10	192	10	+10	192	12

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	178	07	-30	190	09
-20	175	C7	-20	185	12
-10	176	12	-10	187	12
0.0	MISG	MISG	0.0	180	15
+10	178	10	+10	179	13

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	186	10	-30	177	18
-20	188	11	-20	180	17
-10	183	11	-10	177	17
0.0	180	13	0.0	177	17
+10	180	12	+10	177	16

## PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33

DATE 19 November 1979

TIME 1350 MST

TRACKER

COORDINATES (WSTM)    X = 486,037.24    Y = 182,350.16    H = 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL \_\_\_\_\_

## PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33 DATE 19 November 1979 TIME 1415 MST  
TRACKER COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL \_\_\_\_.

## **PILOT BALLOON MEASURED WIND DATA**

TABLE 6

RELEASED FROM Nick Site DATE 19 November 1979 TIME 1351 MST

**TRACKER** COORDINATES (WSTM) X= **470,734.56** Y= **255,775.64** Z= **4126.57**

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL   .

## PILOT BALLOON MEASURED WIND DATA

**TABLE 7**

RELEASED FROM Nick Site DATE 19 November 1979 TIME 1415 MST  
TRACKER COORDINATES (WSTM) X = 470, 734.56 Y = 255,775.64 H = 4126.57

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL xx OR FEET AGL \_\_\_\_\_.

STATION ALTITUDE 3937.30 FEET MSL.  
19 NOV. 79 1400 HRS MST  
ASCENSION I.O. 378

SIGNIFICANT LEVEL DATA  
3230060378  
S M R

TABLE 8

GEOGRAPHIC COORDINATES  
32°48'03" LAT DEG  
106°42'30" LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPONT DEGREES CENTIGRADE	REL.HUM. PERCENT
875.0	3997.3	19.5	3.0	35.0
850.0	4811.4	16.1	3.9	44.0
761.8	7820.8	6.9	-2.0	53.0
751.0	8206.3	5.0	-3	64.0
700.0	10033.0	0.8	-2.2	60.0
679.6	10862.9	-0.5	-5.3	70.0
660.6	11506.0	-2.4	-7.1	70.0
651.2	11980.0	-2.7	-13.0	45.0
641.6	12368.1	-1.1	-22.3	18.0
623.2	13129.2	-2.1	-23.2	18.0
579.2	15427.1	-7.4	-27.0	19.0
528.6	17348.3	-12.4	-29.2	23.0
500.0	18737.9	-15.3	-33.1	20.0
489.2	19279.8	-15.8	-33.0	21.0
409.6	23596.0	-26.1	-36.7	36.0
490.0	24160.2	-26.7	-30.3	71.0
395.4	24574.7	-27.3	-30.6	73.0
383.4	25163.0	-28.6	-34.1	59.0
370.6	25959.5	-31.1	-35.2	67.0
352.2	27141.8	-33.6	-40.4	50.0
322.6	29150.0	-38.2	-45.2	47.0
317.2	29531.8	-39.0	-44.6	55.0
306.0	30343.0	-39.3	-45.6	62.0
300.0	30768.6	-40.5	-45.6	59.0
279.4	32375.2	-43.5	-50.2	47.0
253.0	34809.2	-46.9		
239.8	35706.4	-50.9		
217.2	37823.0	-50.9		
200.0	39565.8	-54.1		
184.2	41310.6	-57.9		
172.4	42685.3	-58.2		
153.6	45051.6	-61.6		
150.0	45545.6	-61.6		
146.4	46041.7	-61.6		
132.6	48052.6	-64.1		
115.6	50781.9	-65.1		
107.3	52328.4	-61.3		
100.0	53765.1	-67.0		
79.2	53501.1	-53.1		
71.3	60609.0	-69.3		

STATION ALTITUDE 3997.30 FEET MSL  
19 NOV. 79 1400 HRS MST  
ASCENSION I.O. 378

SIGNIFICANT LEVEL DATA

3239060378

S N R

TABLE 8 (cont.)

GEODETIC COORDINATES  
32° 48' 03" LAT DEG  
106° 42' 30" LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
70.0	60974.4	-67.3	
62.0	63424.7	-61.5	
52.2	65362.8	-59.7	
50.0	67849.7	-60.9	
45.8	69645.2	-62.5	
37.8	73601.9	-58.0	
30.0	78417.6	-58.0	

STATION ALTITUDE 3997.30 FEET MSL  
19 NOV. 79 1400 HRS MST  
ASCENSION I.O. 378

UPPER AIR DATA  
3230060378  
S M R  
TABLE 9

GEOGRAPHIC COORDINATES  
32°48'34" LAT DEG  
106.42307 LON DEG

GEOMETRIC ALTITUDE ASL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	DEWPONT CENTIGRADE	REL.HUM. PERCENT	WIND DATA			INDEX OF REFRACTION
					GMCUBIC METER	SOUND KNOTS	DIRECTION DEGREES(TN)	
3997.3	875.0	19.5	3.6	35.0	1038.0	667.6	190.0	1.000266
4000.0	874.9	19.5	3.7	35.0	1036.0	667.6	190.0	1.000266
4500.0	859.3	17.4	3.9	40.6	1026.8	665.2	189.1	1.000265
5000.0	844.2	15.5	3.5	44.6	1015.2	663.1	188.3	1.000262
5500.0	829.0	14.0	2.6	46.1	1002.3	661.3	187.5	1.000257
6000.0	814.0	12.5	1.6	47.6	989.7	659.4	186.0	1.000252
6500.0	799.3	10.9	.7	49.1	977.2	657.6	189.6	1.000248
7000.0	784.9	9.4	-3.3	50.5	964.9	655.8	194.8	1.000243
7500.0	770.7	7.9	-1.5	52.0	952.8	654.0	200.4	1.000239
8000.0	756.8	6.5	-1.1	58.1	940.1	652.4	207.4	1.000237
8500.0	742.8	5.2	-0.5	66.5	926.9	650.9	212.2	1.000235
9000.0	729.0	3.8	-1.0	70.8	914.3	649.3	215.5	1.000232
9500.0	715.5	2.4	-1.5	75.0	901.9	647.6	218.0	1.000228
10000.0	702.2	1.0	-2.1	79.3	889.7	646.0	221.1	1.000225
10500.0	689.0	.1	-3.8	74.7	876.2	644.6	223.4	1.000219
11000.0	676.1	-0.9	-5.6	70.0	863.0	643.6	224.4	1.000213
11500.0	663.3	-2.1	-6.8	70.0	850.8	642.0	224.0	1.000208
12000.0	650.7	-2.6	-13.3	43.6	836.8	641.2	224.7	1.000198
12500.0	636.4	-1.3	-22.5	18.0	817.5	642.6	225.9	1.000187
13000.0	526.3	-1.9	-23.0	16.0	804.0	641.8	226.9	1.000186
13500.0	614.3	-3.0	-23.3	18.2	791.6	640.5	227.7	1.000181
14000.0	602.6	-4.1	-24.6	18.4	779.8	639.2	228.2	1.000178
14500.0	251.9	-5.3	-25.4	18.6	768.2	637.8	226.7	1.000175
15000.0	379.7	-6.4	-26.3	18.8	756.8	636.4	225.3	1.000172
15500.0	565.6	-7.6	-27.1	19.2	745.5	635.0	223.5	1.000170
16000.0	557.5	-8.9	-27.6	20.2	734.6	633.4	220.1	1.000167
16500.0	346.6	-10.2	-29.2	21.2	723.3	631.9	217.0	1.000164
17000.0	335.9	-11.5	-28.8	22.3	713.2	630.3	214.9	1.000162
17500.0	525.4	-12.7	-29.6	22.7	702.5	628.6	213.5	1.000159
18000.0	515.0	-13.8	-31.0	21.6	691.4	627.5	214.5	1.000157
18500.0	304.6	-14.6	-32.4	20.5	680.5	626.3	215.6	1.000154
19000.0	494.7	-15.5	-33.1	20.5	669.9	625.4	216.6	1.000152
19500.0	484.8	-16.3	-33.1	21.0	657.4	624.4	216.9	1.000149
20000.0	474.9	-17.5	-33.4	22.5	647.0	623.0	216.7	1.000146
20500.0	465.2	-18.7	-35.7	25.2	636.8	621.5	217.9	1.000144
21000.0	455.8	-19.9	-34.0	27.0	626.8	620.0	219.4	1.000142
21500.0	446.5	-21.1	-34.5	26.7	616.9	618.6	222.1	1.000139
22000.0	437.4	-22.3	-34.9	30.5	607.3	617.1	225.0	1.000137
22500.0	426.5	-23.5	-35.4	32.2	597.7	615.6	227.2	1.000135
23000.0	419.8	-36.0	-36.0	33.3	580.4	614.2	228.4	1.000133

STATION ALTITUDE 3997.30 FEET MSL  
 19 NOV. 79 1400 HRS MST  
 ASCENSIION NO. 378

UPPER AIR DATA  
 3230060376  
 S M R  
 TABLE 9 (cont)

GEODETIC ALTITUDE MSL FEET	PRESSURE HUNDREDS MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TH)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	411.2	-25.9	-36.5	35.7	579.2	612.7	229.0	56.8
42400.0	402.7	-26.5	-31.7	61.1	568.6	611.9	229.9	57.2
42450.0	394.3	-27.5	-31.2	70.6	559.0	610.7	229.9	57.1
42500.0	386.1	-28.3	-33.3	61.9	549.1	609.7	229.9	57.0
42550.0	377.9	-29.7	-34.5	62.4	540.5	606.0	229.7	56.7
42600.0	370.0	-31.2	-35.3	65.4	532.5	606.1	229.6	57.2
42650.0	362.1	-32.2	-37.5	59.2	523.4	604.7	229.5	59.6
42700.0	354.4	-33.3	-39.7	52.0	514.6	603.4	229.5	61.9
42750.0	346.7	-34.4	-41.3	49.5	505.9	602.0	229.7	64.2
42800.0	329.2	-35.6	-42.5	48.7	497.3	600.5	230.1	66.2
42850.0	331.9	-36.7	-43.7	48.0	485.9	599.1	230.9	67.7
42900.0	324.7	-37.9	-44.9	47.2	450.7	597.6	231.9	69.2
42950.0	317.6	-38.9	-44.6	54.3	472.4	596.3	233.4	70.8
43000.0	310.7	-39.2	-44.1	59.0	462.5	596.0	234.5	72.5
43050.0	303.9	-39.7	-44.3	60.9	453.3	595.3	235.3	74.5
43100.0	297.2	-40.7	-45.8	57.4	445.4	594.0	236.2	76.6
43150.0	290.6	-41.7	-47.4	53.6	437.4	592.7	237.0	78.8
43200.0	284.1	-42.7	-49.0	49.6	429.6	591.4	238.5	81.0
43250.0	277.8	-43.8	-50.9	44.6**	421.9	590.0	240.4	83.2
43300.0	271.5	-44.9	-53.9	34.9**	414.4	588.6	241.8	85.7
43350.0	265.4	-46.0	-57.5	25.3**	407.0	567.2	242.9	88.3
43400.0	259.4	-47.1	-62.2	15.6**	399.8	585.7	242.4	91.2
43450.0	253.6	-48.2	-70.0	6.6**	392.7	584.3	241.6	94.2
43500.0	247.8	-49.3	-50.4		385.7	582.8	240.6	93.3
43550.0	242.1	-50.4			378.7	561.4	239.7	91.7
43600.0	236.5	-50.9			370.8	580.4	239.5	85.2
43650.0	231.1	-50.9			362.2	580.8	239.5	78.8
43700.0	225.8	-50.9			353.9	580.8	240.0	73.2
43750.0	220.6	-50.9			345.7	580.8	240.6	68.0
43800.0	215.3	-51.2			336.2	560.4	241.2	64.8
43850.0	210.3	-52.1			331.7	579.2	242.0	61.7
43900.0	205.6	-53.0			325.4	578.0	242.5	57.1
43950.0	200.8	-53.9			319.1	576.8	243.0	52.5
44000.0	196.1	-55.0			313.1	575.4	242.7	48.6
44050.0	191.3	-56.1			307.3	573.9	242.2	45.2
44100.0	187.0	-57.2			301.6	572.5	240.7	46.9
44150.0	182.5	-57.9			295.5	571.5	239.4	48.9
44200.0	178.2	-58.1			288.6	571.4	239.0	51.3
44250.0	173.9	-58.2			281.9	571.2	238.7	54.6
44300.0	169.8	-58.7			275.9	570.5	238.7	55.9

ALL DATA ONE ACCURSED. RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATIONS.

STATION ALTITUDE 3997.30 FEET MSL  
29 NOV. 79 1400 HRS MST  
ASCENSION NO. 378

UPPER AIR DATA  
3230060376  
S M R  
TABLE 9 (cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
43590.0	165.7	-59.4		270.1	569.5	238.7	57.1	1.000060	
44030.0	161.7	-60.2		264.6	568.5	237.6	56.3	1.000059	
44560.0	157.8	-60.9		259.1	567.5	236.4	55.4	1.000058	
45000.0	154.1	-61.7		253.8	566.5	234.6	53.4	1.000057	
45530.0	150.3	-61.3		247.6	566.4	232.4	51.1	1.000055	
46060.0	146.7	-61.6		241.6	566.6	230.4	49.4	1.000054	
46590.0	143.1	-62.2		236.3	565.9	228.4	48.2	1.000053	
47030.0	139.7	-62.8		231.3	565.0	227.2	47.2	1.000052	
47560.0	136.9	-63.4		226.3	564.2	227.1	46.7	1.000050	
48090.0	132.9	-64.0		221.5	563.4	227.5	46.4	1.000049	
48620.0	129.7	-64.3		216.3	563.1	229.8	46.9	1.000048	
49150.0	126.3	-64.4		211.2	562.8	232.0	47.6	1.000047	
49680.0	123.4	-64.6		206.2	562.6	233.5	49.5	1.000046	
50210.0	120.4	-64.8		201.3	562.3	234.9	51.5	1.000045	
50740.0	117.4	-65.0		196.5	562.1	235.0	52.2	1.000044	
51270.0	114.6	-64.6		191.3	562.7	235.1	52.8	1.000043	
51800.0	111.3	-65.3		186.6	564.3	235.5	51.8	1.000041	
52330.0	109.1	-62.1		180.0	566.0	235.5	50.5	1.000040	
52860.0	106.4	-61.5		175.1	566.8	236.0	48.1	1.000039	
53400.0	103.6	-62.1		171.4	566.0	236.6	45.5	1.000038	
53930.0	101.3	-62.7		167.7	565.2	237.7	41.7	1.000037	
54460.0	98.8	-63.0		163.9	564.7	239.3	37.4	1.000036	
55000.0	96.4	-63.0		159.9	564.7	241.4	33.7	1.000036	
55530.0	94.1	-63.0		156.0	564.7	244.0	30.3	1.000035	
56060.0	91.6	-63.0		152.2	564.7	247.2	27.6	1.000034	
56600.0	89.6	-63.0		148.5	564.7	250.6	25.7	1.000033	
57130.0	87.4	-63.1		144.9	564.7	253.6	24.4	1.000032	
57660.0	85.0	-63.1		141.4	564.7	253.6	24.3	1.000031	
58200.0	82.8	-63.1		138.0	564.6	253.3	24.3	1.000030	
58730.0	80.6	-63.1		134.6	564.6	249.3	24.6	1.000029	
59260.0	78.4	-63.1		131.4	564.6	245.4	25.0	1.000029	
59800.0	77.3	-64.3		129.9	563.0	242.3	24.5	1.000028	
60330.0	75.4	-65.6		126.5	561.3	239.3	23.6	1.000028	
60860.0	73.5	-65.8		124.1	559.6	236.2	22.6	1.000027	
61500.0	71.7	-63.0		121.8	556.0	235.7	20.8	1.000026	
62130.0	69.9	-57.2		118.3	559.0	230.6	19.0	1.000026	
62770.0	68.2	-65.1		116.7	560.5	226.3	17.0	1.000025	
63400.0	66.5	-54.9		114.3	562.2	220.3	15.1	1.000024	
64030.0	64.9	-63.7		107.9	563.8	215.2	13.5	1.000023	
64660.0	63.5	-62.5		104.7	565.4	209.4	12.5	1.000023	

STATION ALTITUDE 3997.30 FEET MSL  
 19 NOV. 79 1400 HRS MST  
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UPPER AIR LAT 4  
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 TABLE 9 (cont)

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
63500.0	61.0	-61.5			101.7	566.8	204.9	11.6 1.000023
64000.0	60.3	-61.2			99.1	567.2	206.4	10.4 1.000022
64500.0	58.8	-61.0			96.6	567.5	210.6	9.1 1.000022
65000.0	57.4	-60.7			94.2	567.6	217.1	8.0 1.000021
65500.0	56.0	-60.4			91.8	568.2	226.7	7.1 1.000020
66000.0	54.7	-60.2			89.5	568.5	238.0	6.5 1.000020
66500.0	53.4	-59.9			87.2	568.9	236.2	6.7 1.000019
67000.0	52.1	-59.8			85.1	569.1	234.5	6.9 1.000019
67500.0	50.9	-60.4			83.3	569.2	233.4	7.0 1.000019
68000.0	49.6	-61.0			81.5	567.4	232.9	7.1 1.000018
68500.0	48.4	-61.5			79.7	566.8	232.4	7.2 1.000018
69000.0	47.3	-61.9			78.0	566.2	241.8	7.1 1.000017
69500.0	46.1	-62.4			76.2	565.6	251.7	7.3 1.000017
70000.0	45.0	-62.1			74.3	566.0	258.9	7.7 1.000017
70500.0	43.9	-61.5			72.3	566.7	262.1	8.4 1.000016
71000.0	42.9	-61.0			70.4	567.5	264.8	9.1 1.000016
71500.0	41.9	-60.4			68.5	568.3	263.9	9.0 1.000015
72000.0	40.9	-59.8			66.7	569.0	262.2	8.7 1.000015
72500.0	39.9	-59.3			64.9	569.8	201.8	8.1 1.000014
73000.0	38.9	-58.7			63.2	570.5	209.1	6.0 1.000014
73500.0	38.0	-58.1			61.5	571.3	283.7	4.0 1.000014
74000.0	37.1	-58.0			571.4		315.4	2.3 1.000013
74500.0	36.2	-56.0			60.0	571.4		3.0 1.000013
75000.0	35.3	-55.0			58.6	571.4		2.2 1.000013
75500.0	34.5	-56.0			57.2	571.4		5.6 1.000013
76000.0	33.7	-58.0			55.9	571.4		7.9.6 5.5 1.000012
76500.0	32.9	-58.0			54.6	571.4		94.0 7.1 1.000012
77000.0	32.1	-58.0			53.3	571.4		1.000012 1.000012
77500.0	31.4	-58.0			52.0	571.4		1.000011 1.000011
78000.0	30.6	-58.0			50.8	571.4		49.6 571.4 1.000011

STATION ALTITUDE 3997.30 FEET MSL  
 19 NOV. 79 1400 HRS MST  
 ASCE, SECTION 0. 378

MANDATORY LEVELS  
 3230060376  
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 TABLE 10

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	RELATIVE HUMIDITY		WIND DATA	
			AIR DEWPNT CENTIGRADE	PERCENT	DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	48708.	16.1	3.9	44*	168.6	17.0
800.0	6484.	11.0	.7	49*	189.4	18.4
750.0	8235.	5.9	-.3	64*	210.2	19.7
700.0	10073.	.6	-2.2	80*	221.6	22.3
650.0	12015.	-2.5	-13.7	42*	224.7	36.9
600.0	14099.	-4.4	-24.6	16*	227.6	41.7
550.0	16326.	-7.8	-28.0	21*	217.9	50.6
500.0	18712.	-15.3	-33.1	20*	216.2	52.3
450.0	21299.	-20.6	-34.3	26*	221.1	48.5
400.0	24120.	-26.7	-30.3	71*	229.9	57.2
350.0	27237.	-33.9	-40.7	50*	229.6	63.0
300.0	30728.	-40.3	-45.2	59*	235.7	75.6
250.0	34734.	-48.9			241.0	93.7
200.0	39491.	-54.1			243.0	51.9
175.0	42258.	-58.1			238.6	53.9
150.0	45424.	-61.8			232.3	51.0
125.0	49103.	-64.5			232.7	48.4
100.0	53600.	-63.0			238.4	39.6
80.0	58105.	-63.1			247.2	24.8
70.0	60757.	-67.3			230.9	19.2
60.0	63869.	-61.2			206.9	10.2
50.0	67526.	-60.9			233.1	7.1
40.0	72141.	-59.3			260.7	6.5
30.0	78065.	-58.0				

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.